

IN THE CLAIMS

This is a complete and current listing of the claims, marked with status identifiers in parentheses. The following listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A computer tomography unit, comprising:
- ~~_____ having an X-ray beam source (1); and having~~
 - ~~_____ a radiation detector (4) which has including a number~~
plurality of detector elements (6a-6x), having;
 - ~~_____ a data acquisition system (10) for reading the electrical~~
signals which are produced by the detector elements (6a-6x)
and for processing them the signals to form raw data;
 - ~~_____ and having an image computer, (12) which is arranged~~
downstream from the data acquisition system (10) and to which,
for receiving the raw data can be supplied via a data
transmission path; and (11),
characterized by
 - ~~_____ an evaluation device, (18) which is designed for~~
automatic assessment of the quality of the radiation detector
(4) and, in addition, for automated assessment of at least one
of the quality of the data acquisition system (10) and/or of
the data transmission path (11), wherein the evaluation device
(18) can carry out theis adapted to perform the following
steps:
 - a) ~~_____ initiation ofing~~ at least one measurement for
production of raw data with the X-ray beam source (1)
switched off,
 - b) ~~_____ calculating,~~ using the raw data, ~~calculation of~~ at
least one value of a signal offset of the radiation
detector (4), and
 - e) ~~_____ driving of~~ a display device (20) in order to display

an evaluation result ~~in which~~including the calculated value ~~is included~~.

2. (Currently Amended) A computer tomography unit, comprising:

~~_____ having an X-ray beam source (1) and having;~~
~~_____ a radiation detector (4) which has a number including a plurality of detector elements (6a-6x), having;~~
~~_____ a data acquisition system (10) for reading the electrical signals which are produced by the detector elements (6a-6x) and for processing them the signals to form raw data,; and~~
~~having _____ an image computer (12) which is arranged downstream from the data acquisition system (10) and to which for receiving the raw data can be supplied via a data transmission path (11),; and~~
~~characterized by~~

~~_____ an evaluation device (18) which is designed for automatic assessment of the quality of the radiation detector (4) and, in addition, for automated assessment of the quality of at least one of the data acquisition system (10) and/or of the data transmission path (11), wherein the evaluation device (18) is adapted to perform can carry out the following steps,;~~

- a) ~~_____ initiation initiating of a number at least two of measurements for production of raw data, in which case it is possible to wherein automatically change at least one of the drive or and setting of the X-ray beam source is automatically changeable (1) between the at least two measurements,;~~
- b) ~~_____ calculating, using the raw data, calculation of at least one value of at least one parameter which allows a quality statement about the radiation detector (4), and~~
- e) ~~_____ driving of a display device (20) in order to display an evaluation result in which including the calculated value is included.~~

3. (Currently Amended) The computer tomography unit as

claimed in claim 2, wherein
~~characterized in that~~ the parameter describes at least one of
spectral linearity ~~or~~ and signal linearity of the radiation
detector ~~(4)~~.

4. (Currently Amended) The computer tomography unit as
claimed in ~~one of claims 1 to 3,~~ characterized in that claim 1,
wherein the evaluation device ~~(18)~~ can is adapted to compare
the calculated value with a tolerance limit which ~~can be~~ is at
least one of ~~predetermined or is~~ and read from a memory ~~(21)~~.

5. (Currently Amended) The computer tomography unit as
claimed in ~~one of claims 1 to 4,~~
~~characterized in that~~ claim 1, wherein the evaluation result
~~can be~~ is displayable ~~and~~ graphically on the display device ~~(20),~~
~~in particular with two or more parameters being combined to~~
~~form a graphical pattern.~~

6. (Currently Amended) The computer tomography unit as
claimed in ~~one of claims 1 to 5,~~
~~characterized by~~ claim 1, further comprising a memory device
~~(22)~~ for storage of the evaluation result.

7. (Currently Amended) The computer tomography unit as
claimed in ~~one of claims 1 to 6,~~
~~characterized in that~~ claim 1, wherein a further parameter ~~can~~
~~be determined~~ is determinable which is suitable for assessment
of the quality of at least one of the data acquisition system
~~(10), of a component, of a module element or~~ and of a subarea
of the data acquisition system ~~(10)~~.

8. (Currently Amended) The computer tomography unit as
claimed in claim 7, wherein
~~characterized in that~~ the parameter is suitable for at least
one of ~~assessment of an electronics channel which is~~
~~associated with a detector element, in particular for~~
~~assessment of an integrator (30a-30x)~~ in the electronics

channel, ~~for~~ assessment of a monitor channel, ~~for~~ assessment of a demultiplexer—(31), ~~or~~ for assessment of an A/D converter—(33).

9. (Currently Amended) The computer tomography unit as claimed in ~~one of claims 1 to 6,~~ characterized in that claim 1, wherein a further parameter ~~can be determined~~ is determinable which is suitable for assessment of the data transmission path—(11).

10. (Currently Amended) The computer tomography unit as claimed in ~~one of claims 1 to 9,~~ characterized in that claim 1, wherein the evaluation device determines the value of the parameter statistically from the measured raw data.

11. (Currently Amended) The computer tomography unit as claimed in ~~one of claims 1 to 10,~~ characterized in that claim 1, wherein the evaluation device is implemented by driving by ~~means~~ use of appropriate software which, ~~in particular,~~ is provided in a ~~computer~~—(16), ~~in particular in a control computer, which is~~ fitted away from the gantry—(7).

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (New) The computer tomography unit as claimed in claim 2, wherein the evaluation device is adapted to compare the calculated value with a tolerance limit which is at least one of predetermined and read from a memory.

16. (New) The computer tomography unit as claimed in claim 2, wherein the evaluation result is displayable

graphically on the display device.

17. (New) The computer tomography unit as claimed in claim 5, wherein two or more parameters are combined to form a graphical pattern.

18. (New) The computer tomography unit as claimed in claim 16, wherein two or more parameters are combined to form a graphical pattern.

19. (New) The computer tomography unit as claimed in claim 2, further comprising a memory device for storage of the evaluation result.

20. (New) The computer tomography unit as claimed in claim 2, wherein a further parameter is determinable which is suitable for assessment of the quality of at least one of the data acquisition system, of a component, of a module element and of a subarea of the data acquisition system.

21. (New) The computer tomography unit as claimed in claim 20, wherein the parameter is suitable for at least one of assessment of an integrator in the electronics channel, assessment of a monitor channel, assessment of a demultiplexer, and assessment of an A/D converter.

22. (New) The computer tomography unit as claimed in claim 2, wherein a further parameter is determinable which is suitable for assessment of the data transmission path.

23. (New) The computer tomography unit as claimed in claim 2, wherein the evaluation device determines the value of the parameter statistically from the measured raw data.

24. (New) The computer tomography unit as claimed in claim 2, wherein the evaluation device is implemented by driving by use of appropriate software which is provided in a

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control computer fitted away from the gantry.